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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,131

10/05/2005

Margherita Fontana

Q85649

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23373 7590 02/26/2007  
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EXAMINER

HO, ANTHONY

ART UNIT

PAPER NUMBER

2815

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/520,131

Applicant(s)

FONTANA ET AL.

Examiner

Anthony Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 and 29-36 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 01/03/2005.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on January 3, 2005 was filed after the mailing date of the instant application on October 5, 2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

The disclosure is objected to because of the following informalities: Please revise the sentence that starts: "In as-prepared devices relatively..." (page 14, line 22).

Appropriate correction is required.

### ***Claim Objections***

Claims 6-28 and 37-41 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not certain what the subject matter of the claims are: they can be a method, a device, or the stated material.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 29, 31, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Papadimitrakopoulos (US Patent 5,946,550).

In re claims 1, 29, and 31, Papadimitrakopoulos discloses an electronic or optoelectronic device including a semiconductor material of a metal complex, use, and method of forming the same (column 1, lines 10-15; Abstract; column 3 – column 4)

In re claim 33, Papadimitrakopoulos discloses a method of purifying a semiconductor material, the method comprising contacting the material with a solvent and thereby removing impurities from the material (column 4, lines 65-67; column 11).

In re claim 34, Papadimitrakopoulos discloses the material is soluble (column 11).

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In re claim 35, Papadimitrakopoulos discloses the material is insoluble in the solvent (column 11).

In re claim 36, Papadimitrakopoulos discloses the solvent is water (column 11, 25-30).

Claims 1-5 and 29-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Fontana et al, "A Soluble Equivalent of the Supramolecular, Quasi-One-Dimensional, Semiconducting Magnus' Green Salt," *Chem. Mater.*, Vol. 14, 1730-1735.

In re claims 1, 29, and 31, Fontana et al discloses an electronic or optoelectronic device including a semiconductor material of a metal complex, use, and method of forming the same (entire document). Fontana et al has measured resistivity (page 1733), therefore, the device comprises a resistor (electronic device).

In re claims 2, 30, and 32, Fontana et al discloses the metal complex comprises a chain of cations and anions, wherein each anion and cation comprises a metal atom and the ions are bonded such that charge carriers of the metal atoms are delocalized along the chain; use, and method of forming the same (entire document; Figure 1).

In re claim 3, Fontana et al discloses the ions are bonded to each other by means of the metal atoms (Figure 1).

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In re claim 4, Fontana et al discloses each ion comprises a metal atom and ligands linked to the metal atom (Figure 1).

In re claim 5, Fontana et al discloses each ion is substantially planar (entire document; Figure 1).

In re claim 33, Fontana et al discloses a method of purifying a semiconductor material, the method comprising contacting the material with a solvent and thereby removing impurities from the material (page 1734).

In re claim 34, Fontana et al discloses the material is soluble (page 1734).

In re claim 35, Fontana et al discloses the material is insoluble in the solvent (page 1734).

In re claim 36, Fontana et al discloses the solvent is water (page 1734).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsuboyama et al (EP 1,191,614) teaches a luminescence device is principally constituted by a pair of electrodes and an organic compound layer. Sagiv et al (EP 481,632) teaches composite organic-inorganic superlattices. Kagan et al (WO

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03/088372) teaches a molecular electronic device using metal-metal bonded complexes. Yamashita et al (US Patent 6,372,941) teaches method of producing  $\beta$ -halogeno- $\alpha$ -aminocarboxylic acids. Breimi et al, "From Vauquelin's and Magnus' Salts to Gels, Uniaxially Oriented Films, and Fibers: Synthesis, Characterization, and Properties of Tetrakis(1-aminoalkane) metal(II) Tetrachlorometalates(II)," *Chem. Mater.*, Vol.11, 977-994, teaches platinum and palladium complexes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ho whose telephone number is 571-270-1432. The examiner can normally be reached on M-Th: 8:30AM-7:00PM EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AH  
February 13, 2007

  
JEROME JACKSON  
PRIMARY EXAMINER